IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Appellants:	Oleg Kiselev		
Assignee:	Symantec Operating Corporation		
Title:	Remote Data Access For Local Operations		
Application No.:	10/722,701	Filed:	November 25, 2003
Examiner:	Chelcie L. Daye	Group Art Unit:	2161
Docket No.:	VRT0106US	Confirmation No.:	7436

Austin, Texas
February 6, 2008

Mail Stop AF
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

PRE-APPEAL BRIEF REQUEST FOR REVIEW

Dear Sir:

Applicants hereby request review of the final rejection, mailed November 6, 2007, in the above-identified application with a shortened statutory period set to expire February 6, 2008. This Request is being filed concurrently with a Notice of Appeal Under 37 CFR § 41.31. No amendments are being filed with this request. This review is requested for the reasons set forth below.

Claims 1-10 and 13-21 stand rejected under 35 U.S.C. §103(a) as being unpatentable over DeKoning et al. (USPN 6,691,245) ("DeKoning") in view of Takeda (USPPN 2004/0172509) ("Takeda"). The Applicants respectfully traverse this rejection.

The cited art fails to teach or suggest reading a portion of data by reading the requested portion received from a second host and, "when a sub-portion of the portion of the data is not included in the requested portion [received from the second host, which was requested to provide the requested portion of a copy of the data in a second data storage], reading the sub-portion from the first data storage." The Examiner acknowledges that this feature is not taught by DeKoning and relies solely upon paragraphs 61-65 of Takeda to teach this feature. Office Action mailed June 8, 2007 ("OA"), pages 3-4. The cited portions of Takeda recite:

[0061] Thereupon, the secondary host 100B then transmits a copy request ("journal copy request command") to the secondary disk array device 200B to initiate journal transfer from the primary disk array device 200A (Step 9300).

[0062] After receiving the journal copy request command, the secondary disk array device 200B issues a data read request to the primary disk array device 200A (Step 9310). The primary disk array device 200A transmits the requested data to the secondary disk array device 200B by executing the copy program 2110. Details of the journal copy processing will be described later.

[0063] On the other hand, the data that had been stored in PVOL 2212 before the journal acquisition process was started is not transferred to the secondary disk array device 200B even when the journal copy processing was started. Therefore, it is necessary to copy these data (hereafter "initial data") to SVOL 2214 from PVOL 2212. In the present embodiment, an initial copy process is used to transfer the initial data from the PVOL 2212 to SVOL 2214 (Step 9130). The initial data are transferred sequentially from the volume head area to the end of PVOL 2212 according to instructions of the host 100. This process may also be performed by allowing each disk array device 200 itself to execute the copy program 2110.

[0064] The initial copy and the journal copy processing may be performed asynchronously and in parallel. That is, the initial copy can be performed anytime after PVOL 2212 and SVOL 2214 have been specified based on the pair generation command, regardless of whether or not the journal acquisition process and the journal copy process has been performed or is being performed. However, as long as the initial copy has not been completed, the contents of SVOL 2214 does not reflects PVOL 2212 even if the restoration process 9126 has been performed at the secondary disk array device 200B. The restore or restoration process involves updating or coping the data of PVOL 2212 in the SVOL 2214 using the journal that have been received from the primary disk array device 200A according to the copy process 9124.

[0065] In one implementation, the initial copy initiated by the secondary disk array device 200B issuing one or plural read commands to the primary disk array device 200A in order to reduce the load of the primary disk array device 200A.

Paragraphs 61-62 of Takeda describe how a second host (host 100B) initiates copying of data from the primary storage array to the secondary storage array using a journal copying process. Thus, this portion of Takeda simply describes copying data from the primary storage array to the secondary storage array.

Paragraphs 63-64 describe how some of the initial data on the primary storage array may not be captured by the journal copying process and is instead copied to the secondary storage array using an initial copy process. Thus, this portion of Takeda also describes copying data from the primary storage array to the secondary storage array. Paragraph 65 simply indicates that the secondary disk array device can initiate the initial copy process, just as the secondary disk array device can initiate the journal copying process.

Thus, in the cited portions of Takeda, all data that is copied or otherwise accessed is copied from the primary storage array to the secondary storage array. Takeda describes how all data will be obtained from the primary storage array using the combination of the journal copying process and the initial copy process and clearly does not disclose or suggest reading a sub-portion of data from the secondary storage array, if that sub-portion was not included in data received from the primary storage array (or vice versa). Thus, the cited portions of Takeda clearly neither teach nor suggest a scenario in which a sub-portion of data is not received from one data storage accessible via one host and is instead read from another data storage accessible via another host; instead, the cited portions of Takeda simply describe a scenario in which all data will be obtained from the same data storage.

In the Response to Arguments section of the Final Office Action mailed January 11, 2007 ("FOA1"), the Examiner states: "if the initial copy has not been completely transferred (i.e., there is a portion of the data not transferred into the appropriate device) then the second device issues read commands to the primary device. This portion of Takeda corresponds to the claim limitations of a sub-portion of the requested portion is not available in a received portion and reading that unavailable portion from anything corresponding to the claimed first data storage." "FOA1", p. 11.

The Applicants first note that in the rejection of the claims, the Examiner has equated the secondary host of Takeda with the first host of claim 1, since the Examiner is stating that paragraphs 61-62 (which describe the journal copying process initiated by the secondary host) teach "reading the requested portion received from the second host." In other words, since the cited portion of Takeda teaches the copying of data from the primary storage array to the secondary storage array, any data received is received from Takeda's primary storage array, not from Takeda's secondary host. For this to apply to the feature of claim 1 at issue, it appears that Takeda's primary host is clearly being equated with the second host of claim 1. Furthermore, it appears that the primary storage array is being equated with the second data storage of claim 1, which is accessible by the second host of claim 1.

Accordingly, the fact that Takeda then teaches the secondary device issuing read commands to the primary device (as part of the initial copy described in paragraphs 63-65) simply means that Takeda is teaching requesting and then receiving more data from Takeda's primary host. Since the primary host of Takeda is being equated with the second host of claim 1, this portion of Takeda, at best, teaches an action that would be equivalent to receiving both the requested portion and the sub-portion of the data from the second host of

Application No.: 10/722,701

claim 1, and this scenario is clearly not what is described in claim 1. Thus, Takeda clearly does not teach or suggest "when a sub-portion of the portion of the data is not included in the requested portion [received from the second host, which was requested to provide the requested portion of a copy of the data in a second data storage], reading the sub-portion from the first data storage."

Stated another way, the rejection attempts to equate the primary host of Takeda with both the first host of claim 1 (when expressing how the cited art allegedly teaches "reading the sub-portion from the first data storage") and the second host of claim 1 (when expressing how the cited art allegedly teaches "reading the requested portion received from the second host"). This application of Takeda is clearly inconsistent with the express terms of claim 1, which clearly recite two hosts and expressly recite the actions performed by each host.

In response to the above arguments, the Examiner again equates the journal copying process, which reads data from Takeda's primary volume in order to copy that data to Takeda's secondary volume, with claim 1's act of "reading the sub-portion from the first data storage." OA, pages 11-12. This interpretation is inconsistent with the positions asserted elsewhere in the rejection, where the Examiner has equated Takeda's secondary volume with the first data storage. See, e.g., OA, page 4, lines 1-2.

Furthermore, merely copying data from Takeda's primary volume to Takeda's secondary volume does not teach or suggest reading a portion of data by reading the requested portion received from a second host and, "when a sub-portion of the portion of the data is not included in the requested portion [received from the second host, which was requested to provide the requested portion of a copy of the data in a second data storage], reading the sub-portion from the first data storage." The cited portions of Takeda do not teach or suggest reading a sub-portion of requested data from one storage volume if that sub-portion was not included in data received from another storage volume; instead, the cited portions of Takeda describe a process performed to initialize a volume.

In response to these arguments, the Examiner states that paragraphs 61-62 of Takeda teach "issuing a data read request to the primary host." Final Office Action mailed November 6, 2007 ("FOA2"), p. 9. The Applicants note that this is not consistent with the actual teachings of Takeda, which state that the "secondary disk array device 200B issues a data read request to the primary disk array device 200A." Accordingly, the data read request is issued directly between the disk array devices, not to the primary host.

The Examiner also states that "the journal copy is noted as being the request portion that was read and the initial copy being the non-transferred data, which was not included in the requested portion and is therefore being read from the PVOL." FOA2, p. 10. The Applicants again note that the source of the data copied by both the journal copy and the initial copy is Takeda's primary volume. Neither operation reads data from Takeda's secondary volume; instead, both operations copy data from Takeda's primary volume to Takeda's secondary volume. Accordingly, neither operation teaches or suggests "when a sub-portion of the portion of the data is not included in the requested portion [received from the second host, which was requested to provide the requested portion of a copy of the data in a second data storage], reading the sub-portion from the first data storage."
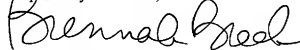
Finally, in the cited portion of Takeda, all data is copied from the primary volume to the secondary volume. Nothing in the cited portions of Takeda teaches or suggests that a read is performed by reading data from the primary volume and from requested data received from a second host that can access the requested data on a secondary volume, or vice versa. Additionally, nothing in the cited portions of Takeda teaches or suggests reading from the secondary volume for any reason, let alone to perform a read.

Claim 1 is patentable of the cited art for the foregoing reasons, as are its dependent claims 2-10. Claims 13-21 are patentable over the cited art for similar reasons. Claims 11 and 12 stand rejected under 35 U.S.C. §103(a) as being unpatentable over DeKoning in view of Takeda and further in view of Carlson et al. (USPN 6,377,959). Applicants respectfully traverse this rejection for at least the foregoing reasons set forth with respect to claim 1.

CONCLUSION

Applicants assert that the application is in condition for allowance and respectfully request that a finding withdrawing the final rejection of the claims be issued.

Respectfully submitted,

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